North American Hepaticæ.—Among all the groups of CRYPTOGAMIA the HEPATICÆ seem to receive the least attention from students and are also neglected by general botanical collectors. The group was not recognized by Linnæus as a distinct order yet in Class XXIV in his *Systema Natura* he describes forty-five species distributed among the following genera:—*Jungermannia*, twenty-eight; *Targionia*, one; *Marchantia*, seven; *Blasia*, one; *Riccia*, five; *Anthoceros*, three. Although these Linnæan species to some extent have been redistributed among other genera by later botanists, the genera still remain and include some of our common forms of *Hepaticæ*.

Since the time of Linnæus other genera have been formed by Dumortier, Palisot de Beauvois, Raddi, Micheli, Corda, Nees, Lindenberg, Taylor and Lehmann.

The British *Jungermanniæ* were described by Sir W. J. Hooker in 1816, and those of Germany by T. P. Eckart in 1832.

Corda published the *Genera Hepticarum* from Prague in 1828, and Nees von Esenbeck in connection with Gottsche and Lindenberg published the *Synopsis Hepaticarum* from Hamburg from 1844 to 1847; the latter is as yet the only general work on *Hepaticæ* that has been issued

In our own country there have been only two investigators of prominence. W. S. Sullivant (1803–1873) published the "Musci and Hepaticæ of the Eastern United States," which formed an appendix to one of the earlier issues of Gray's Manual; the copyright bears date of 1856 and this work which is the only one attempting to classify our native species is now out of print and can scarcely be obtained at any price.

In the death of Coe F. Austin, of Closter, N. J., in 1880, America lost not only an enthusiastic botanist but her solitary worker among the Liverworts. His contributions to the subject were unfortunately not arranged in any systematic publication, but are found scattered through various scientific journals, notably the Proceedings of the Philadelphia Academy, BOTANICAL GAZETTE. and the Bulletin of the Torrey Botanical Club. In addition to many notes on species already described, Mr. Austin has described over sixty new American *Hepaticæ* besides many from foreign localities chiefly Japan and the Sandwich Islands. His "*Hepaticæ Boreali-Americanæ exsiccatæ*" containing over one hundred and seventy numbers was first distributed in 1874.

Only a small portion of America has been searched thoroughly for Liverworts. Ohio, New Jersey, Florida and portions of New England, California, and Illinois have been more or less carefully examined but the greater portion of the continent is still new territory. Seventy-six species have been catalogued from New Jersey and forty-five from Illinois, yet in the latter State only a few counties have been carefully examined. The descriptions of the American species being so widely scattered through German and English works and inaccessible works and periodicals published in our own country, and especially being written largely in Latin are not in a form to be of especial

value to the *general* student. In the absence of any American specialist in this group, the subject can receive little aid from general collectors or local botanists until the present knowledge of the subject is systematically arranged for reference and study. To this end the present writer hopes to be able to contribute a compilation of the *Hepaticæ* in a form available for study and further investigation and would be pleased to receive any communications respecting distribution, etc.—LUCIEN M. UNDERWOOD, *Bloomington, Ill.*

The following preliminary list is presented for suggestions and corrections :—

LIST OF NORTH-AMERICAN HEPATICÆ—doubtful species are printed in italics.—

ALICULARIA,
Lescurii, Aust.
ANEURA, Dumort.
latifrons,
multifida, (L.), Dumort. var major.
palmata, (Hedw.), Nees.
pinguis, (L.), Dumort.
pinnatifida, Nees.
sessilis, Spreng.
ANTHOCEROS, L.
cæspiticius, DeNot.
Donnellii, Aust.
fusiformis, Aust.
Hallii, Aust.
Joorii, Aust.
lævis, L.
Lescurii, Aust.
melanosporus, Sulliv.; *Notothylas melanospora*, Sulliv.
Mohrii, Aust.
Olneyi, Aust.
orbicularis, Sulliv.; *Notothylas orbicularis*, Sulliv.
Oreganus, Aust.
punctatus, L.
Ravenelii, Aust.
stomatifer, Aust.
sulcatus, Aust.
ASTERELLA, Beauv.
hemisphærica, (L.), Beauv,; *Reboulia hemisphærica*, Raddi.
BLASIA, Mich.
pusilla, L.
BLEPHAROSTOMA, Dumort.
trichophyllum, (L), Dumort.
BLEPHAROZIA, Dumort.
ciliaris, (L.), Dumort.
CÆSIUS,
concinnatus, (Lightfoot), B. Gray; *Gymnomitrium concinnatum*, Corda.
CALYPOGEIA, Raddi.
Sullivanti, Aust.
Trichomanis, (Dicks), Corda.
var. rivularis, Aust.
var. tenuis, Aust.
CEPHALOZIA. Dumort.
albescens, Hook.
bicuspidata, (L.), Dumort.
var. conferta, Aust.
catenulata, (Huben.), Aust.
connivens, (Dicks.), Aust.
curvifolia, (Dicks.), Aust.
divaricata, (Engl. Bot.), Aust.
var. confervoides, Aust.
Macouni, Aust.
nematodes, Gott.
Sullivanti, Aust.
CHILOSCYPHUS, Corda.
ascendens, Hook. and Wils.
Drummondii, Tayl.
pallescens, (Dumort.), Nees.
polyanthos, (L.), Corda.
var. rivularis, Aust.
CONOCEPHALUS Hill.
conicus, (L.), Dumort.; *Fegatella conica*, Corda.
DUMORTIERA, Nees.
hirsuta, (Swz.), Nees.
DUVALIA Nees.
rupestris, (Bisch.), Nees.
FIMBRIARIA, Nees.
Bolanderi, Aust.
Californica, Hampe.
elegans, Spreng.
fragans, (Scleich.), Nees.
tenella, Nees.
violacea, Aust.
FOSSOMBRONIA, Raddi.
angulosa, Raddi.
cristula, Aust.
longiseta, Aust.
pusilla, (L.), Nees.
FRULLANIA, Raddi.
æolotis, Nees.
Bolanderi, Aust.
brunnea, Spreng.
Donnellii, Aust.
Eboracensis, Gott.

Grayana, Mont.
Hallii, Aust.
Hutchinsiæ, (Hook.), Nees.
Kunzei, Lehm. and Lindb.
Leana, Aust.
Nisqualensis, Sulliv.
Oakesiana, Aust.
plana, Sulliv.
saxicola, Aust.
squarrosa, Nees.
Sullivantii, Aust.
Tamarisci, Nees.
Virginica, Gott.
GEOCALYX, Nees.
graveolens, (Schrad), Nees.
GRIMALDIA, Raddi.
barbifrons, Bisch.
sessilis, Sulliv.
JUNGERMANIA, L.
alpestris, Schleich.
Bantriensis, Hook., var. Mulleri, Lindb.
barbata, Schreb.
var. attentata, Mart.
bicuspidata, L.
biformis, Aust.
cordifolia, Hook.
crenulata, Smith.
var. gracillima, Hook.
crenuliformis, Aust.
excisa, Dicks.
var. crispata, Hook.
fossombronioides, Aust.
Gilmani, Aust.
Helleriana, Nees.
Hornschiana, Nees.
hyalina, Lyell.
incisa, Dicks.
inflata, Huds.
var. fluitans,
Michauxi, Weber.
minuta, Crantz.
pleniceps, Aust.
polita, Nees.
porphysoleuca, Nees.
pumila, Witte.
Schraderi, Mart.
setiformis, Ehrh.
sphærocarpa, Hook.
Sullivantiæ, Aust.
ventricosa, Dicks.
Wallrothiana, Nees.
Wattiana, Aust.
LEJUNIA, Libert.
auriculata, Hook. and Wils.
calyculata, Tayl.
cavifolia, (Ehrh.), Lindb.
clypeata, Schwein.
cucullata, Nees.
cyclostipa, Tayl.
echinata, (Hook.), Tayl. M. S.
fooriana, Aust.
longiflora, Tayl.
minutissima, Dumort.
Mohrii, Aust.
polyphylla, Tayl.
Sullivantiæ, Aust.
testudinea, Tayl.
LEPIDOZIA, Nees.
reptans, (L.), Nees.
setacea, (Web.), Mitt.
LEPTOSCYPHUS.
Taylori, (Hook.), Mitt.
LIOCHLÆNA,
lanceolata, (L.), Nees.
LOPHOCOLEA, Nees.
bidentata, (L.), Nees.
crocata, (DeNot.), Nees.
Hallii, Aust.
heterophylla, (L.), Nees.
Macouni, Aust.
minor, Nees.
MADOTHECA, Dumort.
Bolanderi, Aust.
involuta, Hampe.
navicularis, (Lehm. and Lindb.), Nees.
platyphylla, (L.), Dumort.
porella, (Dicks.), Nees.
rivularis, Nees.
Sullivanti, Aust.
thuja, Dicks.
Watangensis, Sulliv.
MARCHANTIA, L.
disjuncta, Sulliv.
polymorpha, L.
MASTIGOBRYUM, Nees.
deflexum, (Mart.), Nees.
trilobatum, (L.), Nees.
var. *tridenticulatum.*
MASTIGOPHORA,
Californica, Aust.
METZGERIA, Raddi.
furcata, (L.), Nees.
pubescens, Raddi.
ODONTOCHISMA, Dumort.
Hubeneriana, Rab.
scutata, (Web.), Aust.
Sphagni, (Dicks.), Dumort.
PELLIA, Raddi.
calycina, (L.), Nees.
epiphylla, (L.), Nees.
porphyrorrhiza, (Nees.), Aust.
PHRAGMICOMA, Dumort.
clypeata, (Schwein), Sulliv.
xanthocarpa, L. and Lg.
PLAGIOCHASMA, Lehm. and Lindb.
erythrosperma, Sulliv.
Wrightii, Sulliv.
PLAGIOCHILA, Nees and Mont.

asplenoides, (L.), Nees and Mont.
interrupta, Nees.
Ludoviciana, Sulliv.
porelloides, Lindb.
spinulosa, (Dicks.), Nees and Mont.
undata, Sulliv.
PLEURANTHE, Tayl.
olivacea, Tayl.
PRESSIA, Nees.
commutata, (Lindb.), Nees.
RADULA, Nees.
Caloosiensis, Aust.
complanata, (L.), Dumort.
Hallii, Aust.
obconica, Sulliv.
pallens, (Swz.), Nees.
spicata, Aust.
Sullivanti, Aust.
Xalapensis, Mont.
RICCIA, Mich.
albida, Sulliv.
arvensis, Aust.
var. hirta, Aust.
Beyrichiana, Hampe.
bifurca, Hoffm.
Californica, Aust.
crystallina, L.
Donnellii, Aust.
fluitans, L.
var. terrestris.
var. lata.
var. canaliculatus, Hoffm.
Frostii, Aust.
glauca, L.
lamellosa, Raddi.
Lescuriana, Aust.
lutescens, Schwein.
natans, L.
var. terrestris, Aust.
nigrella, DeCand.
sorocarpa, Bisch.
Sullivanti, Aust.
tenuis, Aust.
tumida, Lindb.
Watsoni, Aust.
SARCOSCYPHUS, Corda.
adustus, Nees.
Bolanderi, Aust.
emarginatus, (Ehrh.).
var. aquaticus, G. L. N.
sphacelatus, (Gies.), Nees.
SAUTERIA,
limbata, Aust.
SCAPANIA, Lindb.
albicans, (L.), Mitt. var. taxifolia.
Bolanderi, Aust.
breviflora, Tayl.
compacta, (Roth.), var. irrigua.
exsecta, (Schmidt).
nemorosa, (L.), Nees.
Oakesii, Aust.
Peckii, Aust.
subalpina, (Nees.).
uliginosa.
umbrosa, (Schrad.) Nees.
undulata, (L.) Nees and Mont.
SENDTNERA, Endl.
juniperina, Nees.
SPHÆROCARPUS, Mich.
Berteri, Mont.
Californicus, Aust.
Donnellii, Aust.
Michelii, Bellardi.
Texanus, Aust.
SPHAGNŒCETIS, Nees.
Macouni, Aust.
STEETZIA, Lehm.
Lyelli, (Hook.) Lehm.
TARGONIA,
Michelii, Corda.
THALLOCARPUS, Lindb.
Curtissi, Aust.
TRICHOCOLEA, Nees.
Tomentella, Nees.

Genera, 49; species, 219; varieties, 17.

The Mistletoe.—The Mistletoe of the Eastern States has a general resemblance to that of Europe, *Viscum album;* but the old genus *Viscum* has been divided by modern botanists, although the lines of distinction are somewhat artificial. We have two genera, *Phoradendron* and *Arceuthobium.* Among the leading distinctions may be mentioned that the European branch of the family, *Viscum*, as now restricted, has the anther open by three pores or slits, our *Phoradendron* by two, while the *Arceuthobium* has but one. There are other slight differences in pollen grains, cotyledons, and form of the fruits. The European Mistletoe is usally found on deciduous trees only, an instance being recorded where it has been found on the Scotch pine in Germany, and its American representative, *Phoradendron*